WHAT IS CLAIMED IS:

1. A signal processing apparatus, comprising:

a decoder for decoding a stream signal so as to generate a digital audio signal of a low frequency effect channel and digital audio signals of first through n'th ($n \geq 2$) channels, wherein the stream signal includes information of a low frequency effect channel, the information containing a low frequency component, and also includes information of the first through n'th channels, the information containing components of all frequency bands, the first through n'th channels having different sound source positions;

an adder section for adding the digital audio signal of the low frequency effect channel and the digital audio signal of a specified channel among the first through n'th channels, so as to generate an addition signal;

an n number of D/A conversion sections for converting the digital audio signals of the first through n'th channels, excluding the digital audio signal of the specified channel, and the addition signal into n types of analog audio signals;

a first signal processing section for performing a first signal processing process of the analog audio signal obtained as a result of D/A conversion of the addition signal, so as to generate an analog audio signal of the low frequency effect channel; and

a second signal processing section for performing a second signal processing process of the analog audio signal obtained as a result of D/A conversion of the addition signal, so as to generate an analog audio signal of the specified channel.

2. A signal processing apparatus according to claim 1, further comprising a multiplication section for adjusting an amplitude of the digital audio signal of the low frequency effect channel generated by the decoder.

3. A signal processing apparatus according to claim 1, further comprising a multiplication section for adjusting an amplitude of the digital audio signal of the specified channel generated by the decoder.

4. A signal processing apparatus according to claim 1, wherein the first signal processing process is a low pass filtering process.

5. A signal processing apparatus according to claim 1, wherein the second signal processing process is one of a high pass filtering process or an all pass filtering process.

6. A signal processing apparatus according to claim 5, wherein the second signal processing section includes a switching section for selecting one of the high pass filtering process and the all pass filtering process,

wherein the all pass filtering process is selected when a low frequency analog audio signal is output from the second signal processing section, and the high pass filtering process is selected when the low frequency analog audio signal is not output from the second signal processing section.

7. A signal processing apparatus according to claim 1, wherein n is 5, and the stream signal contains information of 5.1 channels.

8. A signal processing apparatus, comprising:

a decoder for decoding a stream signal so as to generate a digital audio signal of a low frequency effect channel and digital audio signals of first through n'th (n≥2) channels, wherein the stream signal includes information of a low frequency effect channel, the information containing a low frequency component, and also includes information of the first through n'th channels, the information containing components of all frequency bands, the first through n'th channels having different sound source positions;

a down-mixing signal processing section for converting the digital audio signals of the first through n'th channels into a digital audio signal of an L channel and a digital audio signal of an R channel;

a first addition section for adding the digital audio signal of the low frequency effect channel and the digital audio signal of the L channel, so as to generate a first addition signal;

a second addition section for adding the digital audio signal of the low frequency effect channel and the digital audio signal of the R channel, so as to generate a second addition signal;

a first D/A conversion section for converting the first addition signal into a first analog audio signal;

a second D/A conversion section for converting the second addition signal into a second analog audio signal;

a third addition section for adding the first analog audio signal and the second analog audio signal so as to generate a third analog audio signal;

a first signal processing section for performing a first signal processing process of the third analog audio

signal so as to generate a fourth analog audio signal of the low frequency effect channel;

a second signal processing section for performing a second signal processing process of the first analog audio signal so as to generate a fifth analog audio signal of the L channel; and

a third signal processing section for performing third signal processing of the second analog audio signal so as to generate a sixth analog audio signal of the R channel.

9. A signal processing apparatus according to claim 8, further comprising a multiplication section for adjusting an amplitude of the digital audio signal of the low frequency effect channel.

10. A signal processing apparatus according to claim 8, further comprising a multiplication section for adjusting an amplitude of the digital audio signal of the L channel generated by the down-mixing signal processing section.

11. A signal processing apparatus according to claim 8, further comprising a multiplication section for adjusting an amplitude of the digital audio signal of the R channel generated by the down-mixing signal processing section.

12. A signal processing apparatus according to claim 8, wherein the first signal processing process is a low pass filtering process.

13. A signal processing apparatus according to claim 8, wherein the second signal processing process is one of a high pass filtering process or an all pass filtering process.

14. A signal processing apparatus according to claim 13, wherein the second signal processing section includes a switching section for selecting one of the high pass filtering process and the all pass filtering process,

wherein the all pass filtering process is selected when a low frequency analog audio signal is output from the second signal processing section, and the high pass filtering process is selected when the low frequency analog audio signal is not output from the second signal processing section.

15. A signal processing apparatus according to claim 8, wherein the third signal processing is one of a high pass filtering process or an all pass filtering process.

16. A signal processing apparatus according to claim 15, wherein the third signal processing section includes a switching section for selecting one of the high pass filtering process and the all pass filtering process,

wherein the all pass filtering process is selected when a low frequency analog audio signal is output from the third signal processing section, and the high pass filtering process is selected when the low frequency analog audio signal is not output from the third signal processing section.

17. A signal processing apparatus according to claim 8, wherein n is 5, and the stream signal contains information of 5.1 channels.

18. A signal processing method, comprising the steps of:

decoding a stream signal so as to generate a digital

audio signal of a low frequency effect channel and digital audio signals of first through n'th (n≥2) channels, wherein the stream signal includes information of a low frequency effect channel, the information containing a low frequency component, and also includes information of the first through n'th channels, the information containing components of all frequency bands, the first through n'th channels having different sound source positions;

adding the digital audio signal of the low frequency effect channel and the digital audio signal of a specified channel among the first through n'th channels, thereby generating an addition signal;

converting the digital audio signals of the first through n'th channels, excluding the digital audio signal of the specified channel, and the addition signal into n types of analog audio signals;

performing a first signal processing process of the analog audio signal obtained as a result of D/A conversion of the addition signal, thereby generating an analog audio signal of the low frequency effect channel; and

performing a second signal processing process of the analog audio signal obtained as a result of D/A conversion of the addition signal, thereby generating an analog audio signal of the specified channel.

19. A signal processing method, comprising the steps of:

decoding a stream signal so as to generate a digital audio signal of a low frequency effect channel and digital audio signals of first through n'th (n≥2) channels, wherein the stream signal includes information of a low frequency effect channel, the information containing a low frequency component, and also includes information of the first through n'th channels, the information containing

components of all frequency bands, the first through n'th channels having different sound source positions;

down-mixing the digital audio signals of the first through n'th channels into a digital audio signal of an L channel and a digital audio signal of an R channel;

adding the digital audio signal of the low frequency effect channel and the digital audio signal of the L channel, thereby generating a first addition signal;

adding the digital audio signal of the low frequency effect channel and the digital audio signal of the R channel, thereby generating a second addition signal;

converting the first addition signal into a first analog audio signal;

converting the second addition signal into a second analog audio signal;

adding the first analog audio signal and the second analog audio signal, thereby generating a third analog audio signal;

performing a first signal processing process of the third analog audio signal, thereby generating a fourth analog audio signal of the low frequency effect channel;

performing a second signal processing process of the first analog audio signal, thereby generating a fifth analog audio signal of the L channel; and

performing third signal processing of the second analog audio signal, thereby generating a sixth analog audio signal of the R channel.

20. A program for causing a computer to execute signal processing for converting a digital audio signal into an analog audio signal, the signal processing comprising the steps of:

decoding a stream signal so as to generate a digital

audio signal of a low frequency effect channel and digital audio signals of first through n'th (n≥2) channels, wherein the stream signal includes information of a low frequency effect channel, the information containing a low frequency component, and also includes information of the first through n'th channels, the information containing components of all frequency bands, the first through n'th channels having different sound source positions;

adding the digital audio signal of the low frequency effect channel and the digital audio signal of a specified channel among the first through n'th channels, thereby generating an addition signal;

converting the digital audio signals of the first through n'th channels, excluding the digital audio signal of the specified channel, and the addition signal into n types of analog audio signals;

performing a first signal processing process of the analog audio signal obtained as a result of D/A conversion of the addition signal, thereby generating an analog audio signal of the low frequency effect channel; and

performing a second signal processing process of the analog audio signal obtained as a result of D/A conversion of the addition signal, thereby generating an analog audio signal of the specified channel.

21. A program for causing a computer to execute signal processing for converting a digital audio signal into an analog audio signal, the signal processing comprising the steps of:

decoding a stream signal so as to generate a digital audio signal of a low frequency effect channel and digital audio signals of first through n'th (n≥2) channels, wherein the stream signal includes information of a low frequency

effect channel, the information containing a low frequency component, and also includes information of the first through n'th channels, the information containing components of all frequency bands, the first through n'th channels having different sound source positions;

down-mixing the digital audio signals of the first through n'th channels into a digital audio signal of an L channel and a digital audio signal of an R channel;

adding the digital audio signal of the low frequency effect channel and the digital audio signal of the L channel, thereby generating a first addition signal;

adding the digital audio signal of the low frequency effect channel and the digital audio signal of the R channel, thereby generating a second addition signal;

converting the first addition signal into a first analog audio signal;

converting the second addition signal into a second analog audio signal;

adding the first analog audio signal and the second analog audio signal, thereby generating a third analog audio signal;

performing a first signal processing process of the third analog audio signal, thereby generating a fourth analog audio signal of the low frequency effect channel;

performing a second signal processing process of the first analog audio signal, thereby generating a fifth analog audio signal of the L channel; and

performing third signal processing of the second analog audio signal, thereby generating a sixth analog audio signal of the R channel.

22. A computer-readable recording medium having a program, recorded thereon, for causing a computer to execute signal

processing for converting a digital audio signal into an analog audio signal, the signal processing comprising the steps of:

decoding a stream signal so as to generate a digital audio signal of a low frequency effect channel and digital audio signals of first through n'th (n≥2) channels, wherein the stream signal includes information of a low frequency effect channel, the information containing a low frequency component, and also includes information of the first through n'th channels, the information containing components of all frequency bands, the first through n'th channels having different sound source positions;

adding the digital audio signal of the low frequency effect channel and the digital audio signal of a specified channel among the first through n'th channels, thereby generating an addition signal;

converting the digital audio signals of the first through n'th channels, excluding the digital audio signal of the specified channel, and the addition signal into n types of analog audio signals;

performing a first signal processing process of the analog audio signal obtained as a result of D/A conversion of the addition signal, thereby generating an analog audio signal of the low frequency effect channel; and

performing a second signal processing process of the analog audio signal obtained as a result of D/A conversion of the addition signal, thereby generating an analog audio signal of the specified channel.

23. A computer-readable recording medium having a program, recorded thereon, for causing a computer to execute signal processing for converting a digital audio signal into an analog audio signal, the signal processing comprising the

steps of:

decoding a stream signal so as to generate a digital audio signal of a low frequency effect channel and digital audio signals of first through n'th (n≥2) channels, wherein the stream signal includes information of a low frequency effect channel, the information containing a low frequency component, and also includes information of the first through n'th channels, the information containing components of all frequency bands, the first through n'th channels having different sound source positions;

down-mixing the digital audio signals of the first through n'th channels into a digital audio signal of an L channel and a digital audio signal of an R channel;

adding the digital audio signal of the low frequency effect channel and the digital audio signal of the L channel, thereby generating a first addition signal;

adding the digital audio signal of the low frequency effect channel and the digital audio signal of the R channel, thereby generating a second addition signal;

converting the first addition signal into a first analog audio signal;

converting the second addition signal into a second analog audio signal;

adding the first analog audio signal and the second analog audio signal, thereby generating a third analog audio signal;

performing a first signal processing process of the third analog audio signal, thereby generating a fourth analog audio signal of the low frequency effect channel;

performing a second signal processing process of the first analog audio signal, thereby generating a fifth analog audio signal of the L channel; and

performing third signal processing of the second

analog audio signal, thereby generating a sixth analog audio signal of the R channel.